

Professional Preparation

Harvard University	NSF Postdoc, 2000–2004
University of California at Berkeley	Mathematics, Ph.D. 2000
Northern Arizona University	Mathematics, B.S. 1994

Appointments

- Professor of Mathematics (with tenure), University of Washington, September 2010–present.
- Associate Professor of Mathematics (with tenure), University of Washington, September 2006–2010.
- Associate Professor of Mathematics (with tenure), UC San Diego, July 2005–June 2006.
- Benjamin Peirce Assistant Professor of Mathematics, Harvard University, July 2001–May 2005.
- NSF Postdoctoral Research Fellowship under Barry Mazur at Harvard University, August 2000–May 2004.
- Clay Mathematics Institute Liftoff Fellow, Summer 2000.

Most Relevant Publications

- *Heegner Points and the Arithmetic of Elliptic Curves over Ring Class Extensions*, with R. Bradshaw (15 pages), to appear in *J. Number Theory*.
- *Toward a Generalization of the Gross-Zagier Conjecture* (33 pages), *Int Math Res Notices* (2011) Vol. 2011 309-341.
- *Verification of the Birch and Swinnerton-Dyer Conjecture for Specific Elliptic Curves*, with G. Grigorov, A. Jorza, S. Patrikis, and C. Patrascu (29 pages), *Math. Comp.* 78 (2009), 2397-2425.
- *Average Ranks of Elliptic Curves: Tension Between Data and Conjecture*, with B. Bektimirov, B. Mazur, and M. Watkins, *Bulletins of the AMS* 44 (2007), no. 2, 233–254.
- *Modular forms, a computational approach* (xvi+268 pp.) *Graduate Studies in Mathematics* (AMS) 79 2007, with an appendix by Paul Gunnells.

Other Publications

- *The Modular Degree, Congruence Primes and Multiplicity One*, with A. Agashe and K. A. Ribet (16 pages), to appear in a Springer-Verlag book in honor of Serge Lang, 2011.
- *Computation of p -Adic Heights and Log Convergence*, with B. Mazur and J. Tate (36 pages), Documenta Mathematica, 2006, Extra Vol., 577–614.
- *The Manin Constant*, with A. Agashe and K. Ribet (22 pages), Pure Appl. Math., (2006), no. 2., 617–636.
- *Studying the Birch and Swinnerton-Dyer Conjecture for Modular Abelian Varieties Using Magma* (22 pages), a chapter in the Springer-Verlag book “Computational Experiments in Algebra and Geometry”.
- $J_1(p)$ has connected fibers, with B. Conrad and B. Edixhoven, Documenta Math., **8** (2003), 331–408.

Synergistic Activities

- **Research Tools:** Founder and director of Sage (<http://sagemath.org>), which is a large free open source software project (well over 100,000 lines of the Sage code was written by the PI). Author of the modular forms, modular symbols, and modular abelian varieties parts of the Magma computer algebra system (over 25,000 lines of code and documentation).
- **Outreach:** SIMUW 2006, 2007, 2008; Canada/USA MathCamp mentor (2002); Math Circles talks in Boston; 2011 REU on elliptic curves; involved dozens of undergraduates in work on the Sage software.

Collaborators and Other Affiliations

- **Coauthors:** A. Agashe (Florida State U.), R. Bradshaw (Google), K. Buzzard (Imperial College, London), R. Coleman (UC Berkeley), B. Conrad (Stanford), N. Dummigan (Sheffield, UK), S. Edixhoven (Leiden, Netherlands), F. Leprévost (Univ. Joseph Fourier, Technische Univ. Berlin), E. V. Flynn (Liverpool, UK), D. Kohel (Univ. of Sydney), B. Mazur (Harvard), L. Merel (Paris 6), K. Ribet (UC Berkeley), E. F. Schaefer (Santa Clara Univ.), M. Stoll (Universität Bayreuth, Germany), J. Tate, H. A. Verrill, M. Watkins (U. Sydney), J. L. Wetherell (CCR, San Diego), C. Wuthrich (Nottingham)
- **Graduate and Postdoctoral Advisors:**
 - **Ph.D. advisor:** Hendrik Lenstra, University of Leiden, Netherlands.
 - **NSF Postdoctoral advisor:** Barry Mazur, Harvard University.
- **Thesis Students:** 3 Ph.D. students at UW: Robert Bradshaw’s 2010 Ph.D. on *Provable Computation of Motivic L -functions*; Robert Miller’s 2010 Ph.D. on *Computational Verification of the Birch and Swinnerton-Dyer Conjecture*; currently advising Alyson Dienes’s Ph.D. thesis. Advised eight undergraduate senior theses at Harvard and three at UW.